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Bird Banding and Incidental Studies

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BIRD BANDING AND INCIDENTAL STUDIES

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While the phenomena connected with bird migration have been studied for more than two thousand years much is yet to be learned of this most interesting and still more or less obscure characteristic of our "feathered bipeds." In attempting to throw some light upon their movements new methods have been devised and, in a degree, perfected. Until recently it has been the aim of ornithologists to study the migratory habits of *species* or even of larger zoological groups; but of late an effort has been made to study *individuals* of a species by marking the birds in some permanent manner so that they may be subsequently observed and their movements definitely recorded.

The latter method has consisted, for the most part, in attaching to birds either in the immature or adult stage a small, inscribed metal band the data on which are recorded in a central bureau or organization. Although bird banding itself is not a new thing, proper direction and control of these activities have been lacking. However, since May, 1920, the United States Biological Survey has assumed authority over the work and with this energetic and efficient branch of the Government service at the helm to rejuvenate the efforts of individuals and various cooperative agencies, a more definite and systematic plan of endeavor should produce valuable results. Numerous difficulties have beset the Survey in initiating this project, but it has succeeded in interesting up to this time approximately one hundred persons to whom have been issued about five thousand bands.

In securing birds for banding two methods have been followed, both of which have proved successful. One method consists in banding nestling birds just before they are able to fly, while in the second method dependence is placed upon a scheme of systematic trapping for securing adult birds. Either method may be indulged in with satisfactory results although when once started under favorable conditions many more birds may be secured in the same length of time by trapping than by seeking out nests containing young birds. It is absolutely essential to the success of the project that large numbers of birds be banded

for, of the countless thousands of birds only a comparatively few fall into mans' hands; and every banded bird increases the chances of finding out something about that individual or the species to which it belongs just to that degree.

It is not the intention or plan of those who sponsor the banding of birds to lend encouragement to their promiscuous hunting and killing for the explicit purpose of recovering the bands. But every legitimate collector, field observer and sportsman should be made aware of the exploitations now being made in an endeavor to bring to light new facts, so that he may be on the lookout for banded birds. Whenever such a bird is found the number or, if the bird is dead, the band itself should be forwarded to the United States Biological Survey, Washington, D. C., along with whatever data may be obtained concerning the taking of the bird.

Now, while bird banding in itself is a valuable and laudable phase of ornithological endeavor numerous interesting and incidental features are bound to force themselves upon the attention of the investigator. During the summer of 1920 the writer spent the months of July and August at the University of Michigan Biological Station in northern Michigan. The Station is located on Douglas Lake which lies in the coniferous belt about seventeen miles from the Straits of Mackinac on the north, Lake Michigan on the west and Lake Huron on the east. Many favorable nesting sites for birds are offered and numbers of species that we in Iowa see only as migrants nest among the pines and aspens in more or less safety and seclusion.

Here, during a period of about six weeks, 115 birds representing twenty different species were banded. Of these, 106 were nestlings occupying thirty-nine nests, eight were young birds captured after leaving the nest and one was an adult.

And so, while looking for subjects to band and studying the inhabitants of nests before and after banding we were brought face to face with many interesting sidelights relating to the behavior and habits of certain birds which, under other circumstances, might have escaped us. It is on some of our findings in this field that I should now like to briefly direct my remarks. The order of presentation of the species herein included is based solely upon the order of sequence in the A. O. U. Check List.

Spotted Sandpiper. *Actitis macularia* (Linn.). As might be expected, spotted sandpipers are not uncommon in the region and during the first half of July young birds may be seen almost anywhere along the beaches. On July 10 a family of four young,

apparently not more than two or three days old, was captured on the beach near camp. After a considerable chase the youngsters were assembled in a hat where they were kept temporarily confined while the process of banding occurred; during this time the female flew about calling continually and apparently in great distress. After the young were banded the hat was pinned so that the birds could not escape and then left upon the beach with its precious contents. The observers all having selected hiding places, the distracted female cautiously approached the place, *i.e.* the hat, from which the faint chirps of the young birds could be heard, finally coming to stand directly *on* the hat calling constantly but giving no indication to us that she was aware of the proximity of her family; later she scurried away again as if not certain of the place from which the call notes of the fledglings issued.

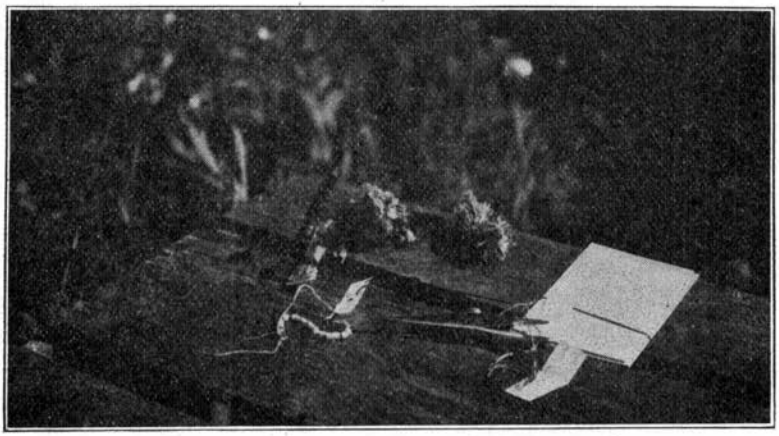

Fig. 27. Young Black-billed Cuckoos and bird banding paraphernalia.

Black-billed Cuckoo. *Coccyzus erythrophthalmus* (Wils.). The black-billed cuckoo is much the commoner species of the region and we were privileged to study the inhabitants of two nests. On July 14 a nest about three miles from the Station was visited. This nest was in a low balsam tree about four feet from the ground and at the side of a trail leading into a bog. It was a shallow, saucer-shaped platform composed of coarse twigs and lined with willow catkins, well protected from sun and wind. Upon our arrival the brooding female remained on the nest while the photographic apparatus was set up within three feet of her and several exposures were made. In the meantime the male repeatedly gave a series of low *koor - uck - uck - uck* alarm notes

from a nearby tree. When the female was flushed the nest was found to contain two black young with conspicuous white feather tubes. I judged that the birds were about four days old.

The other nest of this species was discovered on July 26 at which time it contained three eggs. On August 2 the nest contained five eggs and one young about three days old. While we were photographing the nest and its contents and banding the nestling one of the eggs which was pipped began to crack open and with a little assistance from us the bird was soon out. The young bird seemed perfectly dry on issuing from the shell, little if any of the amniotic fluid remaining at this time. While these events were transpiring the parent birds remained in the vicinity very much excited, sometimes flying almost to our feet and all the time giving vent to the characteristic alarm notes. On August 13 the nest was again visited when it was found to have been abandoned along with three eggs. Probably two young had left the nest alive. This nest was about two feet from the ground in a low beech seedling which had sprung up in a burned-over area. It was more compactly built than the one above described and was almost completely concealed by the leaves of the seedling.

Belted Kingfisher. *Ceryle alcyon* (Linn.). One of the most interesting families of young birds that was banded consisted of six belted kingfishers. Their home was located in a sand bank on the east shore of Douglas Lake about six feet above the water-line and forty feet from the edge of the lake. The excavation, which was not more than two and one-half feet in length,

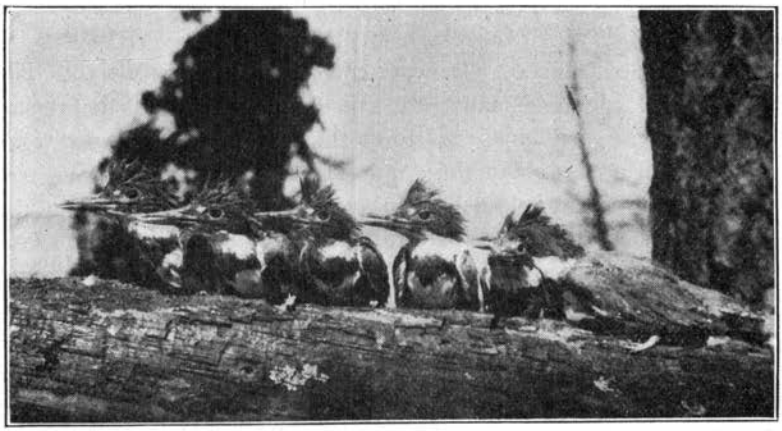

Fig. 28. Young Belted Kingfishers about ready to leave nest.

curved inward among the more or less exposed roots of a large white pine (*Pinus strobus*), its terminus where the birds rested being about twenty inches below the surface of the soil.

On digging down to the nest the six blinking, frowsy-headed youngsters, three males and three females, all fully feathered, were exposed to the light. Contrary to what I had been led to expect from previous reading the nest was not a foul, ill-smelling place. There were no signs of dead fish or fish bones and only a very little excrement was found. The young birds were temporarily removed from their cool dark nest, admired, banded and photographed, during which latter process they posed as quietly and accommodatingly as the most exacting photographer could have desired. They showed no tendency to walk backward, a curious habit mentioned by some writers.

A few days previous to this experience, while on a field trip with my class, we had seen one of the parent birds, which was carrying a fish, alight in a tree near by. The bird probably becoming excited at the presence of about twenty observers dropped the fish and flew away. Upon examination this fish proved to be a brook trout (*Salvelinus fontinalis*).

Whippoorwill. *Antrostomus v. vociferus* (Wils.). The whippoorwill is a common bird of the region and during the height of the breeding season may be heard calling *vociferously* on all sides during the early evening and morning. On a number of occasions I have made counts of consecutive calls given by a single bird and these results only tend to increase our wonder at the remarkable vocal ability of their possessors. One count gave 294 consecutive calls with but three very short intervals; another count gave 396 calls with three very brief intervals during their utterance and another gave 446 calls with five brief intervals. The average number of consecutive calls diminished proportionately as the season advanced.

On July 13 a "nest" — simply a concavity on the dead leaves among the aspens — containing two eggs was discovered, and a week later two downy young were found at a point about two feet from the place in which the eggs formerly reposed. Although the young birds were able to flutter along the ground they chose not to do this on our approach but simply squatted and remained quiet, apparently depending upon the simulation of their coloration with that of their surroundings for protection. Indeed, so effective was this simulation that we almost trod upon the birds several times before we found them.

Cowbird. *Molothrus a. ater* (Bodd.). Still another item of ornithological interest that is likely to thrust itself upon the observer's attention in such a region as the one here discussed is the prevalence of the parasitic habit on the part of the cowbird and the general infliction of its presence, eggs and young upon numerous species of birds. Either the eggs or young of this polygamous and polyandrous outcast of the *Icteridae* were found in nests of *Vireosylva olivacea* on two occasions, *Hylocichla guttata pallasi* on two occasions and *Junco h. hyemalis* on one occasion. In this latter nest two cowbirds and one junco were waging the struggle for existence with the odds in favor of the former, which were larger, stronger and much more active than was the rightful occupant of the nest.

Cliff Swallow. *Petrochelidon l. lunifrons* (Say). Cliff swallows, along with barn swallows, commonly nest under the eaves of some of the buildings at Ingleside, a small resort on the north shore of the lake. In all, fourteen young of the former species, which occupied six nests, were banded between July 15 and August 6. These birds were in various stages of development at the time of banding. In one group of three nestlings banded on July 24, two bore dipterous larvae of some kind upon the soles of their feet; one of these birds carried two of the larvae which were about 8 mm. in length and fully gorged with blood. In no other birds examined during the summer was a similar condition observed.

Hermit Thrush. *Hylocichla guttata pallasi* (Cab.). On July

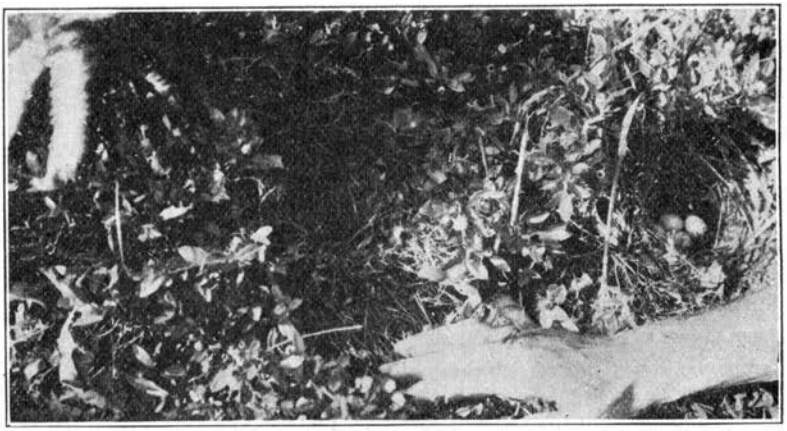

Fig. 29. Two nests of Hermit Thrush less than a foot apart; the occupied one [illegible] one cowbird's egg.

13 a hermit thrush nest containing three eggs of this species and a cowbird's egg was discovered in a clump of blueberry bushes growing beneath a large pine tree. Upon cautiously approaching the nest and carefully laying aside the blueberry bushes another nest identical in construction, size and materials, but empty, was discovered less than a foot from the occupied nest. The unoccupied nest was in a good state of repair although it had apparently not been used that summer. Was the pair of hermit thrushes nesting in this blueberry clump the same pair which had nested here in 1919 or was this nesting site chosen at random by a pair which had not visited the place previously? The solution of this and similar questions, it is hoped, may be answered through results attained by bird banding.

In wandering about the woods in search of nests and young birds one is struck, after a time, by the fact that even here in a more or less isolated spot comparatively free from one of their greatest enemies — man — and in a place where the birds are subjected only to the attacks of their natural enemies, the mortality among young birds is surprisingly great. Two or three examples will serve to illustrate this point.

An ovenbird's nest, found on July 4 and containing four young not more than two days old was kept under observation from a blind until 4:00 P. M. of July 9. Twenty-four hours after the latter date the entire brood had totally disappeared. Snakes or red squirrels were accused by us for the depredation but without any direct evidence against them.

On another occasion the nest of a slate-colored junco containing three young was under observation from a blind for several days. On July 18, when the birds were four days old, the nest contained but a single juvenile. The next day Mr. H. C. Fortner found a garter snake (*Thamnophis sirtalis*) in the act of taking the last remaining member of the family. The reptile was promptly killed and the young bird was taken from its stomach. Farther on, in the intestinal tract, were the other two juncos in a partly digested condition. Perhaps, also, this snake had served as the host for our family of young ovenbirds whose nest was but a few feet from the junco's nest. Although two eggs still remained in the latter the adult birds did not again return to them.

A few days later while making observations on the activities of another junco family from a bird blind my attention and curiosity were aroused by a considerable commotion on the part of the parent birds. On looking out of the opening in my blind

I was unable to discover anything out of the ordinary. Apparently, however, the adult birds were becoming more disturbed than ever and on attempting to investigate the situation more closely by sticking my head out of the blind entrance I was met by a milk snake (*Lampropeltis t. triangulum*) which was crawling in to escape the angry pecking of the juncos. Immediately I disputed the occupancy of the blind with the snake to the destruction of the latter. When its stomach was examined no recognizable remains of birds were found. I feel certain, however, that if permitted to go its way unharmed it would have made away with at least some of the occupants of the nest. The snake measured 31½ inches in length.

Still another junco family of five was known to have lost two-fifths of its members before those remaining were large enough to leave the nest.

On other occasions the eggs and young of the hermit thrush, American redstart and chipping sparrow were found to have been molested but the actual commitment of the deviltry was not observed.

Although poisonous snakes do not abound in the region "garter snakes" are plentiful enough and no doubt take their toll of lives from the ground-nesting species of birds in particular.

One of the best ways of securing an estimate of the proportionate number of nesting birds in a locality such as the Douglas Lake region is by making a survey of the nesting pairs of birds therein. In seeking out nests containing young birds suitable for banding we were able to arrive at some fairly definite conclusions as to the most abundant species and those observations together with almost daily field work gave a checking up method that proved very satisfactory. This combination of records indicates relative abundance as follows:

1. *Bombycilla cedrorum*
2. *Spizella p. passerina*
3. *Junco h. hyemalis*
4. *Pooecetes g. gramineus*
5. *Melospiza m. melodia*
6. *Hylocichla guttata pallasi*
7. *Vireosylva olivacea*
8. *Planesticus m. migratorius*

In conclusion it may be said that interest and participation in bird banding is likely to lead to definite results not only in that work itself but in the accumulation of data which may be helpful in furthering our knowledge of birds and their habits. To date,

but one of my banded birds has been recovered: a young robin, banded on July 21, 1920, at Douglas Lake was taken on January 21, 1921 in Perry county, Mississippi, fifty miles north of the Gulf of Mexico. Multiply such results many fold and the amount of information concerning various phases of the activities of robins will have become more widely disseminated. Numerous side lights will force themselves upon the attention of the student from time to time; and often the slight bits of encouragement thus afforded will prove a legitimate incentive for a continuation of interest which will result in intensive, thorough and exhaustive work in little developed though none the less productive fields.

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